

**In the Claims**

Please amend claim 1 as follows.

1. (Currently Amended) A translation system for translating a source device program for a source device into a translation language program for a target device, the system comprising:
  - a front end for identifying source elements in a source device program; and
  - a back end for generating the translation language program having translation elements corresponding to translation of the identified source device program elements, the backend including a graphic user interface, the graphic user interface visually displaying the identified source device program elements aligned with the corresponding translation elements, the graphic user interface having an input unit, the input unit permitting a user to modify directly the translation elements based on the a visual comparison with the aligned source device program elements.
2. (Previously Amended) The system as recited in claim 1, wherein the source program is for a source device and the translation file is for a disparate target device.
3. (Previously Amended) The system as recited in claim 1, wherein the source program is a linear assembly file for a target device and the translation program is a scheduled assembly file for that device.
4. (Previously Canceled)
5. (Previously Canceled)

6. (Previously Amended) The system as recited in claim 1, wherein the translation program is a context-dependent translation based on static analysis of the source file.

5 7. (Previously Amended) The system as recited in claim 1, wherein the back end further comprises includes:

a translator for performing a context-dependent translation, the translator comprising having:

10 source opcodes to target opcodes;

a source machine description containing a description of source opcodes and source operands in a generic representation;

15 a target machine description containing a description of target opcodes and target operands in a generic representation; and

20 wherein the translator receives a source instruction from said front end, utilizes the translation machine description and source machine description and target machine description to translate source elements into target elements.

25 8. (Previously Amended) The system as recited in claim 7, wherein the proper target opcode is chosen from a group of potential target opcodes by comparing the target opcode and target operand with the source opcode and source operand.

30 9. (Previously Amended) The system as recited in claim 7, wherein two or more source opcodes can be combined to a single target opcode when there is a target opcode that represents the two or more source opcodes.

10. (Previously Amended) The system as recited in claim 1,  
wherein the user interface is a display processor.

11. (Previously Amended) The system as recited in claim 10,  
5 wherein the graphical user interface displays at least a  
portion of the source elements in a source window, at least a  
portion of the translation elements in a translation window,  
and the source and translation windows are displayed side-by-  
side.

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12. (Previously Amended) The system as recited in claim 11,  
wherein corresponding groups of elements of the source and  
translation programs are aligned in the source and translation  
windows.

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13. (Previously Amended) The system as recited in claim 11,  
wherein at least one of the source and translation windows is  
operable to display a status icon for an element in the  
window.

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Please amend Claim 14 as follows.

14. (Currently Amended) A method for performing translation  
of a source program into a translation program, the method  
25 comprising:

receiving a source device program;  
identifying source elements in the source device program;  
generating a translation file having translation elements  
by performing a context-dependent translation of the source  
30 elements;  
displaying the translation elements in a graphic user  
interface, the graphic user interface aligning the source  
elements and the translation elements, the aligned elements

permitting a visual comparison of related source elements and the corresponding translation elements; and

in response to user inputs, automatically directly regenerating selected translation elements based on the user  
5 inputs.

15. (Previously Amended) The method as recited in claim 14, wherein the source program is for a source device and the translation program is for a disparate target device.

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16. (Previously Amended) The method as recited in claim 14, wherein the source program is a linear assembly program for a target device and the translation program is a scheduled assembly program for the target device.

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17. (Previously Canceled)

18. (Previously Canceled)

20 19. (Previously Amended) The method as recited in claim 14, further comprising:

performing static analysis of the source elements in the source device program; and

25 performing context-dependent translation of the source elements based on the static analysis.

20. (Previously Amended) The method as recited in claim 14, wherein the step of generating a translation program further comprises:

30 converting an opcode of a source device program to an opcode of a translation machine program by comparing the source opcode to possible translation opcodes;

converting the operand of the source opcode by comparing an operand of the source opcode in a generic expression with a generic expression for a translation operand;

5 combining the translation opcode and the translation operand to form a translation element.

21. (Previously Amended) The method as recited in claim 20, wherein the step of converting an opcode of the source program further comprises choosing a translation opcode from a group 10 of potential translation opcodes by comparing the translation opcode and translation operand with the related source opcode and source operand.

15 22. (Previously Amended) The method as recited in claim 20, wherein the step of converting the source opcode further comprises the step of combining two or more source opcodes into a single translation opcode when there is a translation opcode that represents the two or more source opcodes.

20 23. (Previously Amended) The method as recited in claim 14, wherein the graphic user interface includes a display processor.

25 24. (Previously Amended) The method as recited in claim 23, further comprising:

displaying the source elements in a source window;  
displaying the translation elements in a translation window; and

30 displaying the source and translation windows side-by-side in the display processor.

25. (Previously Amended) The method as recited in claim 24, further comprising aligning corresponding groups of elements

of the source and translation files in the source and translation windows.

26. (Previously Amended) The method as recited in claim 24,  
5 further comprising displaying a status icon for an element in at least one of the source and translation windows.

Please amend Claim 27 as follows.

- 10 27. (Currently Amended) A translation system for translating a source device program into a translation program for a target device, the system comprising:  
a computer capable of executing a program;  
an interactive program for translating code for the source device into code for the target processor and capable of being executed on the computer; and  
a graphics interface system displaying source program elements proximate to corresponding translation program elements, the graphics interface unit having a user input device, the user input device permitting a direct correction of the translation program elements by a user as a result of a visual comparison the source program elements with the corresponding translation program elements.